

PATHWAYS

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New Methods of Teaching Music in the Primary School

by Gertrud Mayer—Denkmann

(Gertrude Meyer-Denkman is Reader in the University of Oldenburg, West Germany-for the training of music teachers for primary schools and special schools. She has conducted several courses in music in various countries of Europe. In India she has conducted similar courses in 1979-80 under the auspices of Max Mueller Bhavan. Of her various books, the following title is available in English :

Experiments in Sound—Universal Edition 26923 ; Universal Edition London Ltd.—Music Publishers ; 2/3 Fareham Street, Dean Street, London W 1 V 4 DU.)

Music, of various kinds, forms a part of everyone's environment. In the world of today, where radio, T. V. and other mass media play a prominent part, music has a decisive role in the socialisation and development of a young child. The development of a child depends not only on inherited talents, but is strongly linked up with the social conditions in which the child grows up. Talents, including musical talents, depend essentially on whether learning opportunities are available to the child or not. The earlier these are provided, the more effective is the learning and the better the end result. Thus the teaching of music needs to start right from the primary years of schooling.

If music is to win for itself an equal standing with other subjects in the curriculum, new methods need to be adopted. Traditional methods involved imitation of the teacher, reproduction, constant practising of musical skills and acquisition of the facts of music and its history. Too often, the number of students exposed to even this training was very limited. Modern teaching must take into consideration the emotional and communicative needs of the entire class and become oriented to the life and environment of the children. The instruction needs to be related to practical experiences and to be child-centred. Some questions that arise in this connection are dealt with below.

What does music contribute to the individual development of a child ? The individual unfolding of a child is accomplished within its social surroundings by developing the links between perception, thinking and action. Listening to and appreciating music, in the primary school, is still fully connected with concrete operational mental activities. (See 'Stages of Learning in the Primary School' R. F. Morgan; **PATHWAYS** November 1979). In the first years of school the setting free of motoric and musical activities form the basis

of music lessons. These activities should be experiences connected with real life. Instead of practising ready-made patterns children must be given more opportunities for free-play, discovery and the expansion of their individual fantasies. Some possibilities are :

- * Children dance freely in their places to vigorous rhythmic music. Initially they need not bother about absolutely correct coordination between movements and musical rhythms.
- * Songs they sing, should likewise be linked with free movements. There is a rich Indian tradition of children's songs with dance movements, gesticulations and mimicry. (I saw how beautifully the children of a nursery and a Government school in Delhi performed such songs !)
- * Children imitate certain animals through body movements, gesticulations and also by making sounds. They render separate movements like hopping, crawling, stamping etc to the rhythm of percussion instruments.
- * Children mime daily activities like washing, eating, drinking, suffering. Others guess what is being demonstrated or make the corresponding sounds.
- * Children improvise new words for known songs or compose a new melody to known verses. Their words may be the result of their own experiences and are recited or sung to their own melodies.
- * The narration of a story is illustrated with vocal or instrumental music and noise imitations—bird calls, the howling of the wind, sounds of motors, water, steps, human beings.....
- * The children can make up their own sound stories—ghost or demon music ; animal cries ; storms, the approach and passing of the wind, rain or thunder.....
- * The children select different instruments or apparatus and a conductor. He indicates

who should play— all together, some or single children ; how they should play— noisily/softly ; excitedly/quietly ; loudly/ lightly ; quickly/slowly— ...

In every case the important thing is that children shall use the means available to express and practice their creative and manipulative abilities. Music lessons should try to develop all the senses—hearing, seeing, tasting, feeling. As these develop, the transfer of what is heard into what is seen can be started—an important preparation for the building of cognitive abilities like the understanding of language, the learning of reading and writing. For example :

- * Children react with stipulated actions to sounds made by the teacher or a leader : They stretch themselves or raise their arms when the pitch is high ; squat or lower arms when it is low ; stamp their feet when the sound is loud ; crawl when it is soft , make movements in the air, make gestures, hop, skip etc in response to drum beats.
- * The same idea may be extended to responding to sounds of different timbres produced by different instruments—striking bamboo sticks, cymbals, percussion instruments, the rim or edges of a drum.
- * The children touch, feel and name with closed eyes fine/coarse material (rice, beans etc in small tins) ; rough/smooth or glossy paper ; thin/thick bamboo sticks in bundles. They hear, guess and name which material sounds in a particular way, describe the nature of the material.
- * The children transform acoustic signals into visual ones— that is they invent separate signs for long sounds and short ones ; for long loud sounds and soft short ones ; for rising and falling or continuous melodies ; for quick and slow tempo ; for scratching or vibrating sounds (on a drum or made by a rattle) which grow louder and then fade away ; for the pitter-patter of raindrops which start slowly grow more intense and then gradually cease. Some symbols for these are shown. (contd. on page 20)

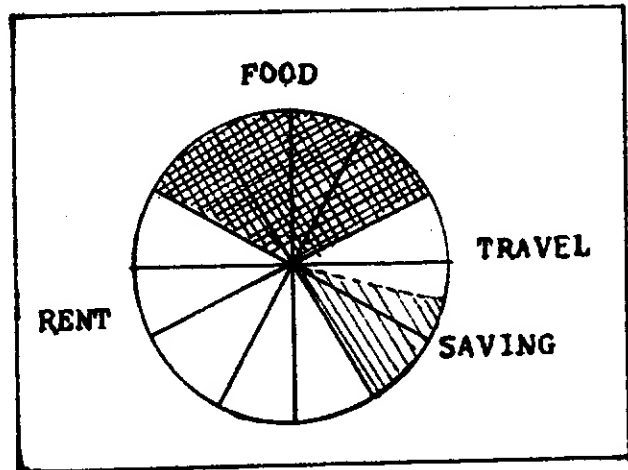
PIE CHARTS

Here is an easy way to draw a pie chart. Take a piece of stiff card (perhaps the reverse side of an invitation card) and draw a clock face on it. Join the opposite numbers and cut it out very carefully. Do not make the circle too small.

You can use an 'angle' clock like this to draw any pie chart roughly. Any angle on your pie chart is now $360^\circ \div 12 = 30^\circ$. To draw an angle of say 65° take two portions plus a bit more; 45° or half a right angle is quite easy—you have to guess the midpoint of one portion.

Let us take a problem: Mrs. Mathur's monthly budget is Rs. 2400. Of this she spends Rs. 1000 on rent; Rs. 800 on food; Rs. 300 on travel and entertainment and saves the rest.

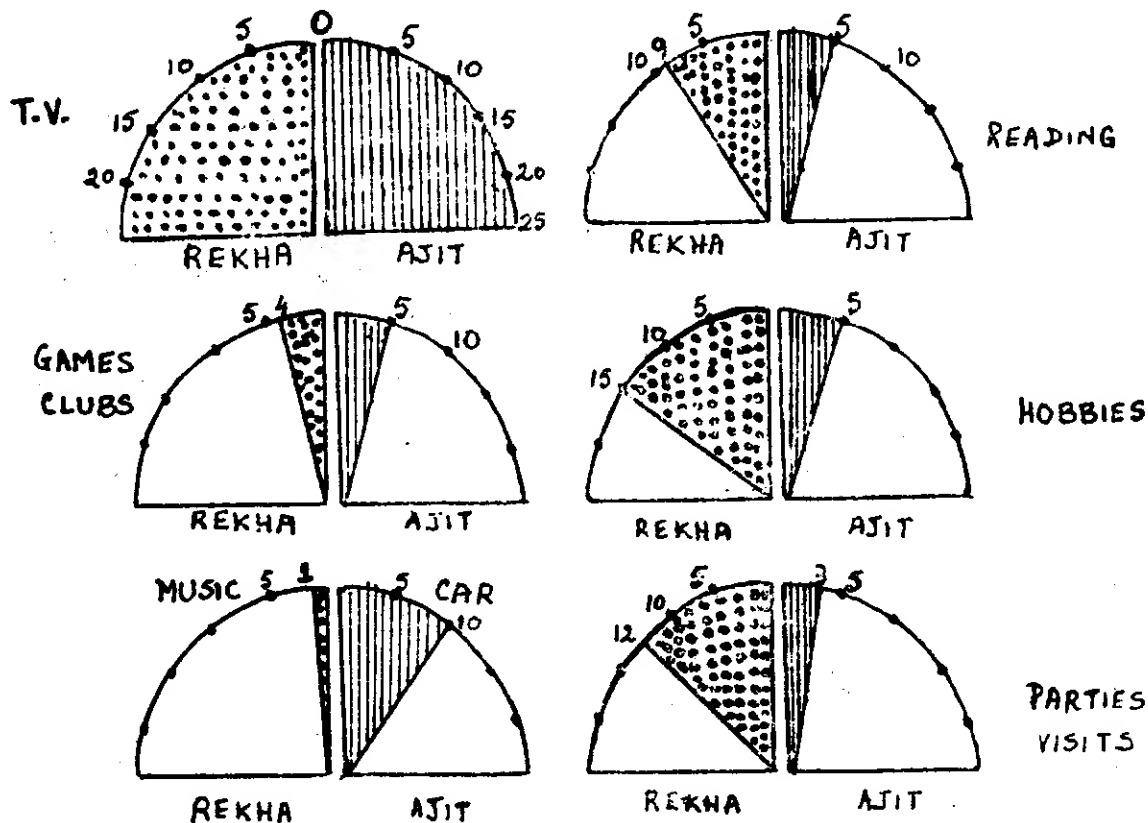
Our pie chart is divided into twelve 'lots', so each must represent Rs. $2400 \div 12 = 200$. Therefore her budget must be thought of in 'lots' of Rs. 200 each. The rent is Rs. $1000 = 5 \times 200$; food costs are Rs. $800 = 4 \times 200$; travel Rs. $300 = 200 + 100 = 1\frac{1}{2} \times 200$; savings are Rs. $300 = 1\frac{1}{2} \times 200$. Our pie chart then looks like this.



When using a pie chart we have to make some approximations, so that we can use our 'angle' clock. The table given below shows how a newspaper divides up space between different items. Complete it and use the angle clock to draw a pie chart.

% in paper		fraction of paper	fraction of circle	degrees	
Sport	12	$\frac{12}{100}$	$\frac{12}{100} \times 360$	$\frac{4320}{100} = 43$	45°
Advert.	40	$\frac{40}{100}$	$\frac{40}{100} \times 360$?	?
Features	13	$\frac{13}{100}$	$\frac{13}{100} \times 360$?	?
Pictures	18	?	?	?	?
Crime/other reports	?	?	?	?	?

Here is a problem to be solved using pie charts. Rekha and Ajit, newly-weds, each have fifty hours of leisure time a week. The $\frac{1}{2}$ pie charts show the percentage of their spare time that they spend on each activity. How many hours do they spend on each?



For example Ajit and Rekha each spend 25% of their spare time watching television. This amounts to $25\% \times 50 = ?$ hours.

Ajit spends 5% of his spare time reading; that is $\frac{5}{100} \times 50 = ?$ hours; while Rekha spends 9% of her spare time reading.

Having calculated these different answers, find out the total number of hours spent on the activities listed here. What percentage of their spare time does each spend on 'other' activities?

YOUR ATTENTION PLEASE

PATHWAYS is issued four times a year—in February, April, August and November. The annual subscription is Rs. 6/- for all readers, both in Delhi and outside. Individual copies may be obtained for Rs. 1.50 plus postage. Please send your Money Orders to the Educational Planning Group, 4 Raj Niwas Marg, New Delhi-110354.

Owing to frequent losses in the post, we have decided to post individual copies to teachers of Delhi Schools. When you renew your subscription this year, please make sure to let us have your correct residential address, including the Pin Code.

Contributions from teachers describing new ideas tried out, their problems and other experiences are most welcome. Please send them to me before the 20th of the preceding month.

—Gayatri Moorthy

Snippets from the World of Books and Music

- * **Me and My World**—An Idea Book for Teachers of Environmental Studies in the Primary Classes. Second, revised edition with additional material explaining what Environmental Studies is about is now available from the Educational Planning Group, 4 Raj Niwas Marg, Delhi—110 054. Price Rs. 6.50 each. Postage extra.
- * HMV are advertising a cassette of Nursery Rhymes (36 favourites) for Rs. 29.80 plus taxes.
- * Polydor Records have released nine new LP's in a Storytime Series for children. Some records are in Hindi, others in English. Some titles appear to be linked up with corresponding titles in the Amar Chitra Katha series of comics—so that children can read the story themselves after listening. I would advise teachers to listen to the records before purchase to ensure that the language used is not beyond the competence of their students. Price : Rs. 32.80 p. plus taxes each.

Teachers in Delhi may contact Mr. Amarjit of the Music Shop, 18 AB Khan Market, (Telephone 618464 ; 617797), where I saw the titles listed below. He has promised to help them get particular titles they require.

Cat. No. 2392 882	Sati and Shiva, Ancestors of Rama, Dasharatha, Prahlad	Hindi
Cat. No. 2392 880	Sudama, Krishna, Dhruva, The Sons of Rama	Hindi
Cat. No. 2392 883	Krishna, Sudama, Dhruva	English
Cat. No. 2392 501	Birbal Part I (seven stories)	English
Cat. No. 2392 502	Birbal Part II	English
Cat. No. 2392 884	Panchatantra (eight stories)	Hindi
— — — —	The Musical Donkey, The Lion and the Rabbit, The Monkey and the Crocodile	English

- * Another Stereo record available in Hindi (EMI S/45 NLP 113) contains the stories : Bahadur Mor and Chidiyon ka Raja.

* SHILPA :

A Manual of the Folk Dances, Music, Crafts and Puppetry of India written and compiled by Carol Hanson. Peggy Mueller and Marilyn Turkovich produced by the Educational Resources Center, D-53 Defence Colony, New Delhi-110 024. (Contact Mrs. Sharada Nayak). It is a resource book of ideas, originally intended for American students studying India. It contains activities which may be used in craft classes, songs and rhymes for children, scripts for puppetry skits and even instruction on how to make the puppets !

- * The Teachers Centre, Springdales School, Pusa Road, New Delhi-110 005 offers cyclostyled programmed lessons in Mathematics, suitable for students of Classes VI to VIII. They may be used for initial learning as well as for remedial work. Titles available just now :

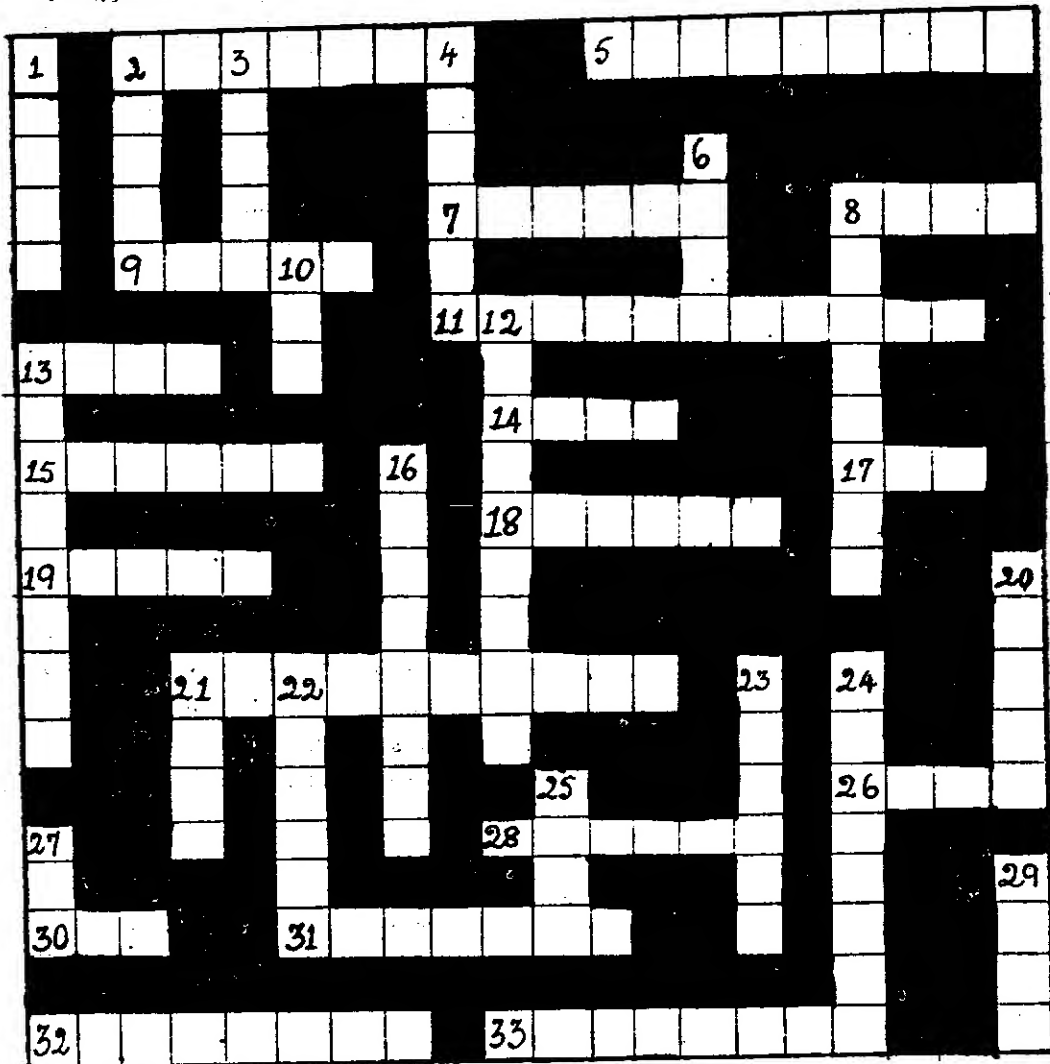
Fractions I, II, III) Each set costs Re. 1/-
Algebra I, II, III	
Sets	
	Each set costs Rs. 2/50

Postages changes will be extra. Contact either Mrs. Meera Govil or Mrs. S. Sundararajan at the above address.

—Gayatri Moorthy

WATER-PLA 1

Crosswords provide an interesting way of testing children on facts. The one given here is based entirely on water, most of the scientific terms being those given in the textbooks used in the Middle School classes. We would be happy to hear from readers who try this out in their classes and would welcome other crosswords devised by teachers on any subject. —Editor.



CLUES

ACROSS

2. The liquid in which a substance is dissolved.
5. A solution in which no more solid can be dissolved.
7. A container for water.
8. An aerated water.
9. A fruit containing plenty of water.
11. A process for separating sand and water.
13. Water which does allow soap to lather easily.
14. A Latin name for water.
15. To get drinking water from sea water we ——— it.
17. The solid form of water.
18. A gas that is found dissolved in water.
19. A large body of water found in Nature.
21. A process for removing impurities suspended in water.
26. A common substance that dissolves readily in water.
28. The solid that is dissolved is called the——.
30. In water, most things become ———.
31. A substance that can dissolve in water is termed——.
32. The upper curved surface of water in a container.
33. To give water to plants.

(Answers on page 8.)

DOWN

1. Flowing water.
2. Seen when a kettle boils.
3. Water seeks its own ———.
4. Muddy water is ———.
6. Needed to help a substance dissolve faster in water.
10. It floats on water.
12. Wet clothes dry if the water in them can——.
13. One of the elements in water.
16. A substance used to purify water.
20. Small particles of ice seen on the ground on a winter morning.
21. It lives in water.
22. A human being needs two—— of water daily.
23. Water can—— into ice.
24. Two liquids that can mix with each other.
25. At 100°C, water will——.
27. Deposit of water droplets on a cold day.
29. Heaven-sent, it gives life to plants.

MATHEMATICS—ALL ROUND US

In my article 'Mathematics at Khirkee Masjid' in the February 1979 issue of PATHWAYS, I wrote, "There is a mathematics lesson to be learnt all around us." Isn't it true? I narrate here one of my recent experiences.

My mother was sick and I had to take up her duties in the kitchen. Before I entered the kitchen I went to her for some instructions. "With one cauliflower of this size, mix four large potatoes," she said.

Barely had I started, when she called me again to say, "Put three teaspoons of ghee into the vessel and then bring me the box containing the spices. I will show you how much to use of each kind."

From this box, she took out small amounts of turmeric, chillies and salt and gave them to me for use with the vegetables.

This incident set me thinking. The amounts of the different spices were obviously adjusted according to the quantity of vegetables being cooked. In mathematical terms, it implied a knowledge or understanding of ratio and proportion. I realised that this concept which is often so difficult to get across to young children could be explained using real-life situations of this kind. Recipes can be written out, amounts weighed and proportions established.

With younger children the concept of proportion may be given—perhaps without using such a word—in activities which involve them in mixing water or powder colours; in preparing clay (or mud) for modelling into toys.

Experiences of this type will, apart from developing mathematical concepts, help children improve their skills of experimentation, observation and recording which they will require in later years of school.

Ms. Raj Bala
Headmistress, Navyug Junior School.

Modelling with Dough

by S. Bhattacharya

Little children love to model and often we find that it is not easy to provide them with plasticine or with potter's clay. A very easy alternative is to use dough. This can either be made from flour (maida) or from left-over pieces of bread.

Flour Dough :

- 1 cup ordinary flour
- 1 cup salt (finely ground)
- $\frac{1}{2}$ cup water

Mix together the dry flour and salt. Gradually add water and knead, until the dough is well mixed but not sticky. The dough is now ready for use.

Bread Dough :

- 6 slices bread
- 6 teaspoons of PVA white glue
- $\frac{1}{2}$ teaspoon of liquid detergent

PVA=Polyvinyl Adhesive. Camel white glue works satisfactorily — use a little more. Cut the crusts off the bread and crumble it into a bowl. Add glue and detergent to the crumbs and knead the mixture. You may need to add a little water. Knead until the dough mix is smooth and does not feel sticky. It is now ready for modelling.

The dough models will take several days to harden. The flour dough may also be baked at 250°C until the dough is hard but not too brown. When the model is ready, paint with water colours or paste paints. Models made in dough are not only comparatively inexpensive, but are also permanent. Once you acquire the knack very fine things can be modelled from it. Add to it the advantage that children can paint it as they like and you have a modelling mixture that can give hours of creative fun.

ANSWERS TO WATER-PLAY

ACROSS

- 2. solvent
- 5. saturated
- 7. bottle
- 8. soda
- 9. melon
- 11. decantation
- 13. hard
- 14. aqua
- 15. distil
- 17. ice
- 18. oxygen
- 19. ocean
- 21. filtration
- 26. salt
- 28. solute
- 30. wet
- 31. soluble
- 32. meniscus
- 30. irrigate

DOWN

- 1. river
- 2. steam
- 3. level
- 4. turbid
- 6. heat
- 10. oil
- 12. evaporate
- 13. hydrogen
- 16. chlorine
- 20. frost
- 21. fish
- 22. lites
- 23. freeze
- 24. miscible
- 25. boil
- 27. dew
- 29. rain

The Story of My Family— A Project to make History Relevant

by Chitra Subrahmaniam

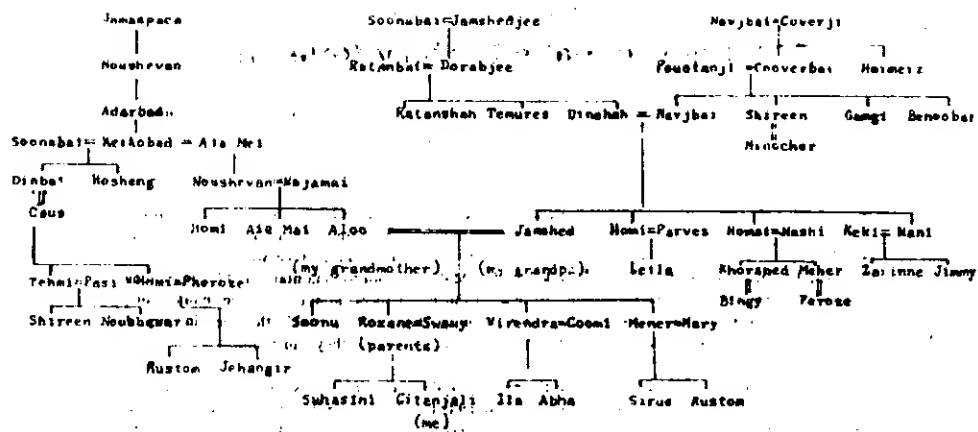
During the course of an academic year, I have to think up a number of ways to make history more interesting to my students. It is a universal feeling among them—and they do not hide this from me—that one gains nothing by reading history; it is “boring and irrelevant”. One way in which I have dealt with this problem has been to ask every child in the Middle School to maintain a file containing colourful pictures of well-known monuments, write-ups from newspapers about forgotten monuments, maps, pictures, cartoons and other clippings. Once a month, while going through the files in class, I would call upon children to speak to the group about anything interesting they had found.

This project worked for a while, but as there were no deadlines for its submission, enthusiasm began to wear off. I modified the system to ask the students to submit one project per term, before the commencement of the examinations. This year, a chance conversation with a friend (also a teacher) led me to suggest to the children of Classes VII and VIII that they compile their own family histories. I hoped this would make history more relevant to them and also counteract their complaint about non-availability of suitable books and pictorial material for their projects.

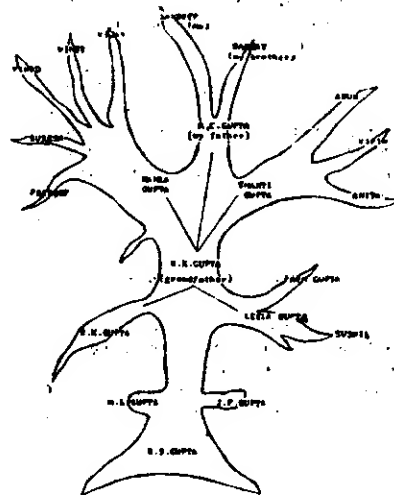
I told them that perhaps the best place and time to gather information for their project would be at the dining-table during dinner. The hectic pace of daily living might not leave their parents or grandparents much time to talk to them during the day. The latter, I was sure, would enjoy talking about “the good old days when we could get a sovereign of gold for Rs. 13/-”. With this in mind I specially instructed the students to have long chats with elders in their families—even great-aunts and uncles! It might even bridge the so-called ‘generation gap’. Further, I wanted the students to realise that what or where they are today is because of their forefathers. Growth and change are what history is all about. This they could see even in their own family history. Research, interviews, preparing of questionnaires, searching for rare photographs and gathering material for the family tree would demand both intelligence and patience.

I give below excerpts from the children’s work and some comments on them. Most students had made out their family trees. Some began with their great-great-grandfathers. In quite a few cases I was surprised not to see the names of any girls. One girl explained that since girls got married into another family, their names were not included. Only some family trees gave complete details. Reproduced on the next page is Gitanjali’s family tree on her mother’s side. She had used two colours (green and blue) to differentiate between dead and living persons. See how elaborate it is!

Gitanjali (Class VII) traces her ancestry back to a certain Nerioseng Dhaval who came from Persia, “fleeing from the Arabs. Some relatives like Cooverbai’s brothers are not known. My mother’s father’s side got the surname Kapadia because they sold cloth. Before Jamshedjee, their surname was Dangare.”

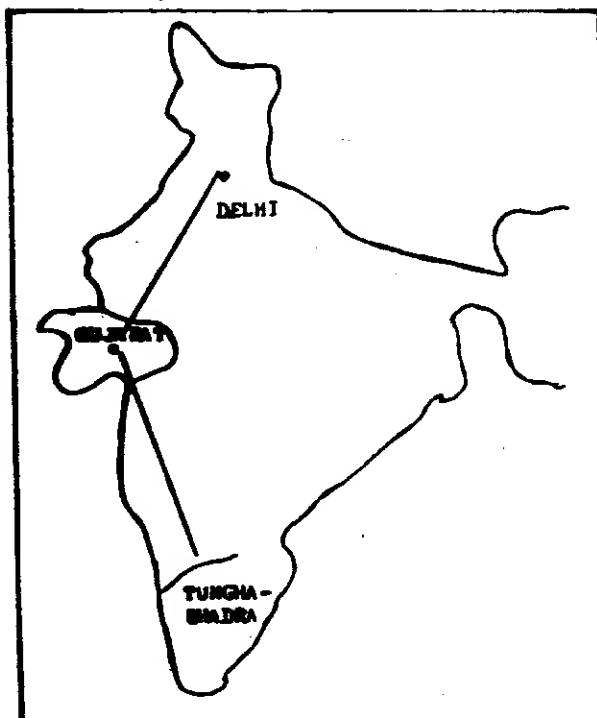
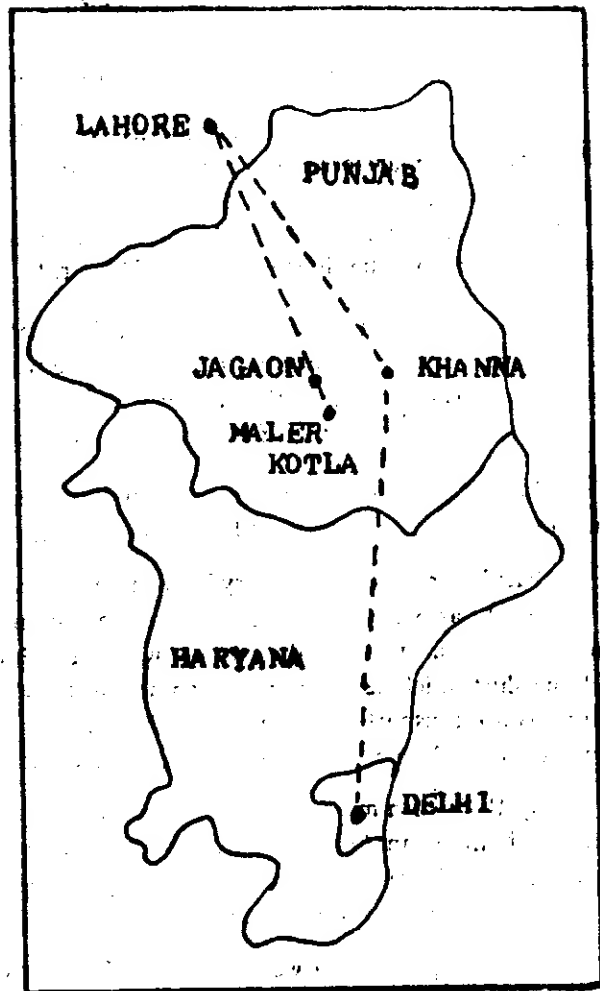


Sandeep Gupta drew his family tree on the father's side in this way.



A number of students had drawn maps to show migration of their families. Poonam Aggarwal writes: "Our family is called the 'Maleria Banias' because one of our ancestors once lived in Malerkotla. My great-great-great-grandfather, Munshi Radha Krishan (Lala Lajpat Rai's father) was a school teacher and a scholar in Persian and Urdu. The day my great-great grandfather (Lalaji) started his practice in law, he got his father Munshiji retired from service. He was serving at a salary of Rs. 25 per month. He was born in 1846, when in Mudki's Plain the English fought the Sikhs and started dominating the Punjab,"

Poonam's map reproduced here shows the places to which the family moved. It came as a great surprise to all of us that she was related to the famous Lala Lajpat Rai.



Veena also drew a map and wrote as follows: "Our gotra is Lankayanas. Our ancestors were originally domiciled on the banks of the Tunghabhadra River in South India. Four hundred years ago a group of around twenty-seven gotras moved towards the North and crossed the Vindhyachal range of mountains to settle permanently at a place called Brahm-Kheda. Then the king allotted a village called Vadeli to our ancestors. We are therefore called Khedwal Brahmins after the place Brahm-Kheda. My grandfather came to Delhi about fifty years ago."

While many children indicated that their grandparents had migrated to India from Pakistan, none described the miseries and the problems that accompanied the partition of the sub-continent.

Mamta Desai wrote how her family got their surname: "By profession, my ancestors were all landlords and big farmers, collectors of taxes and panchayat members of the village 'Vav', which is near Surat in Gujarat. During the time of the Mughals and the Peshwas, they were known as 'Dehai' or 'Desai'. In Persian, 'Deh' means the ruler of a village. From this the name 'Desai' comes. All the Desais are from the Southern part of Gujarat.

We are Anavil (Anaval) Brahmins. We get this name from the original village Anaval. The name of the village (Anaval) originated from the word 'Unwell' which means 'hot springs'. There are several springs of hot water there. Even Ram after the War with Ravana is said to have performed a 'yagya' there, near a spring, to wash away the sins of war."

Mamta got most of her information from her grandfather who lives in Baroda. She wrote him a number of letters and received his replies, written in Gujarati.

Parul Garg's work was very interesting. Here are some excerpts. "Lala Khubchand, my great great grandfather was born in 1857, the year of the Indian Mutiny. He was a farmer and used to grow wheat and other crops. In those days a man wearing a shirt was considered to be an important person. He had one shirt which he wore only when he had to attend a marriage. He used to walk all distances as there was no transport. He was married at the age of eight and was blessed with eight sons and four daughters out of which only two sons and one daughter survived.

By 1892 when my great grandfather was born, there was a change in the village. A small church had been built by an Anglo-Indian. My great grandfather was married at the age of eleven years. His marriage was celebrated for ten days. He wore woollen clothes and smoked a 'hukkah'. He travelled in an 'ekka'—a cart drawn by a horse.

My own grandfather was married at the age of sixteen years."

Her account clearly indicates 'change'. She concentrated on this and was able to bring out the differences in the way of life of different generations - note especially the change in the age of marriage.

Sangeeta Dutta writes of her grandmother: "Her father was the first Indian officer who was Controller of Defence Accounts. She belonged to the royal family. Her great grandfather was an adviser of Maharana Ranjit Singh."

Sumit Bali says: "We are originally from a West Pakistan village, Bhalla Karyala in District Jhelum. The people of our community are good soldiers. Most of them are in the armed forces. The second main profession is farming. My own grandfather was in the Army and took part in the First and Second World Wars. He was awarded a medal and a title—Sardar Bahadur O. B. I."

The above excerpts show that the children have delved deep into their family history. Gitanjali's price list of the early 1930's as given by an old servant of the family is "out of today's world". Some of the items are:

Sugar 4 annas/kg; rice 3 annas/kg; ghee Rs 1/kg; gold—Re. 13/- for a mohur; silver was the coinage; an adult goat cost Rs. 2/-. A person with a salary of Rs. 3000/- was practically a millionaire!

Many students had pasted photographs of members of their families in their files. Two photographs of Lala Lajpat Rai found in Poonam's file were very different from the ones we usually find in

newspapers and books. Nandita Das' photograph showed herself (taken when she was a few days old) with her mother, her grandmother, her great grandmother and her great-great-grandmother. Five generations—each the oldest in her family; all girls—a rare photograph indeed!

Reviewing the work of the class as a whole, I felt that many had stopped short with just the family tree. They could have utilized this opportunity to find out more about their family story. I hope that with some more guidance and encouragement they will continue this good work and that it will lead them to realise that "today's happenings are tomorrow's history".

(Ms. Chitra Subrahmaniam works in Sardar Patel Vidyalaya. She has written "The Indus Valley Civilisation-A Reaction" in the November 1980 issue of PATHWAYS. Keenly interested in her subject, History, she has also taught English. We hope to carry articles about her projects in English in future issues of PATHWAYS.)

IN A LIGHTER VEIN

He copied from his friend's geometry examination paper by using a hand mirror. He got all his answers backwards. His friend got a grade of 93 and he got 39.

+ + + +

The little boys came bursting into the house shouting to their mother that the youngest brother had fallen in the lake. "We tried giving him artificial respiration," one of them gulped, "but he kept getting up and running away."

+ + + +

When my two older brothers enrolled me in the first grade, I got the surprise of my life. For the first time I found out my name was Paul. Up to that time I thought it was Hey-you.

+ + + +

Teacher: "What did Newton think when he saw the apple fall?"

Student: "Thank God, it's not a brick!"

+ + + +

One of our professors was notorious for extending his lectures over the allocated time, despite frequent glances at his watch. Then our college principal sat in on one lecture and succeeded in breaking this tiresome habit. As the professor, already running late, looked at his watch for the umpteenth time, the principal proffered his own watch. "Would you like to use this one?" he asked. "It tells you the date as well."

— E. Francis West

in the Reader's Digest December 1977.

+ + + +

The botany professor gave his new junior colleague just one piece of advice: "On field trips, my boy, always walk well in front of your students, so that you can trample on any specimens you don't recognise."

— Julie Nelson

in The Reader's Digest, March 1978

+ + + +

Overheard on a bus: I'd give my right arm to be ambidextrous."

+ + + +

One youngster to another, about a third: "Nine years old and he doesn't even know how to manipulate his parents!"

—from The Reader's Digest, April 1976

+ + + +

WEATHER - WISE

Suggestions for a Project by Students

Wind and Weather

Have you noticed how your mood depends on the weather? All living things are natural barometers and change as the weather changes. Every fisherman knows that fish, for instance, behave differently from minute to minute according to the weather.....changes in air pressure and atmospheric electricity directly affect the chemical processes of our body and we experience these changes in our bodily chemistry as changes in our feelings. If you imagine your mind as the speaker of a radio, and your body as the inside works and the valves-then the weather is something that fiddles with the control knobs.

What has all this talk about the weather to do with poetry? This poetry is not made out of thoughts and casual fancies. It is made out of experiences which change our bodies and spirits, whether momentarily or for good.....And one poetic experience which all of us go through, whether we like it or not, is the hour by hour effect on us of the weather. Out of this almost everybody, at some time in their lives, can produce pieces of poetry. Perhaps not very great poetry, but still, poetry they are glad to have written.

—Ted Hughes.

Dull Day

The day was dull

The smell of the air
was icy.

The colour of the air
was as Dark

as a wolf's coat,

Misty.

—David Hill, age 8

Rain drums on the pane and runs down,
waving the world into a dream.

—J. W. Kochett

Snow

I am white

And I fall from a hedge

I cover the ground

And don't make a sound.

Boy, age 8

1. Spring, Summer, Autumn, Winter: Make lists for each of the seasons in turn, of all the things you think of under these headings: Weather.....Outdoors.....Indoors.....Activities. Use your lists to help you made up patterns of words and images about each season. Write out your images, thoughts and words and use them to make a poem about the year.

2. Playing Detective: Look at photographs in newspapers and magazines and try to make out what type of weather they were taken in. Can you tell if it was warm and sunny...cold...misty.....raining... windy, stormy or quiet?

Some pictures tell you about the seasons:










Spring: new buds appearing on the branches of trees, the mustard fields in bloom, flowers.....

Summer: parched, dry earth.....dusty surfaces.....children flying kites.....

Monsoons: puddles in roads.....umbrellas and raincoats.....floods.

Winter: bare branches.....people huddle around fires.....fog and mist.

3. Make up a Weather Calendar using pictures to show different types of weather. You may need to use more than one symbol in a day. It may look something like this :

MARCH	
1.	
2.	  
3.	
4.	
5.	  

Pearls on the Grass

After the beautiful rain
The rocks shine under the sun,
Like the droplets on the cobweb
Amongst the green, green grass.

Geceta Mohanty, age 13.

4. Find out :

What happens to the rain that falls on roads and pavements.....that falls on rooftops,

5. Many people do not like rainy days. What about you ?

What are the things you find difficult on such days ?

Can you think of some people who might welcome rain ?

A Flight of Words

An Ocean

A Sea

A Lake

A Pond

A Puddle

A Glass of Water

A Splash

A Drip

A Raindrop

A Tear

6. Make up your own flight of words which lead step by step like a staircase going down for

A CLAP OF THUNDER

7. Rain can be destructive.....thunder, showers, cloudbursts, swollen rivers and floods. Collect pictures and write a vivid account of a family marooned in the floods.

8. From the newspapers collect information about rainfall in your city for a whole month of the monsoons and convert it into a graph. Find out what the average daily rainfall was during that month. Were there any days without rain? What was the maximum rainfall on any one day?

Clouds can help you to tell what the weather is going to be like. Some clouds occur on fine days.....they often look like balls of cotton wool in the sky. Clouds which bring rain often cover the whole of the sky and are dark and black at the bottom.

Clouds

White sheep, white sheep
On a blue hill,
When the wind stops
You all stand still.
When the wind blows
You walk away slow.
White sheep, white sheep,
Where do you go?

—Christina Rossetti

Storms

My mum hates thunder
She plugs her ears with a towel
And lies on the settee
As though someone were coming to get her.
But me, I'm alright
I don't mind a bit.
I'm a bit edgy about lightning
But thunder doesn't bother me at all.

—Glynis Burr

9. Find out the names of the different types of clouds.

Watch the clouds moving in the sky.....look for shapes in them.....write down what they remind you of.

I always paint pictures

Of violent weather (mostly tornadoes with thick dragon tails that strike like snakes),

I am obsessed

With steep funnel-shaped clouds

And frightened children

Who cry and run scared
through towering cornfields.

I paint only
the dark-stained pictures
that storm inside my head.

—Dave Etter

10. Would you like to paint a picture of a thunder—storm?

11. Find out what a lightning conductor is and how it works.

The Wind and the Sun argued about who was stronger. They decided to see which one of them could make a man take off his coat. The Wind went first. It blew and blew. But the man only turned up his collar and walked on holding his coat tightly around him. Now it was the turn of the Sun. The Sun shone and shone. As the man walked on he grew hotter and hotter. At last he stopped and took off his coat. So the Sun won the contest.

12. Make up your own stories of the contests between The Fire and Water; The Rain and the Snow.

When the wind blows it can mean many different types of weather. Sometimes the wind is so gentle that you can only feel it on your face or see it when it blows away smoke or fine dust. At other times, the wind can be so strong that it is difficult to walk against.

13. Find out about different kinds of winds—gales, tornadoes, typhoons, sandstorms.

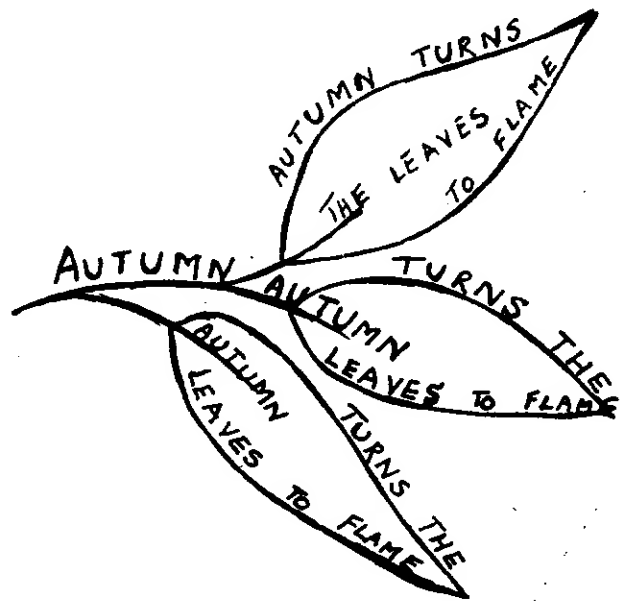
Did you know that sunlight is made up of many colours. When a ray from the sun is allowed to pass through a glass prism it is split up into these colours. They are jointly called the spectrum. A rainbow is a spectrum in the sky, formed when sunlight falls on raindrops suspended in the air.

14. Find out more about the spectrum—how many colours there are in it, how the famous scientist Isaac Newton discovered the spectrum from sunlight, how a rainbow is formed.

Place a tray of water on a window sill where you can see the sky reflected in the water. Put some ink in the water to darken it. Put a drop of thin oil in the water. Step back and look at it. What do you see?

The colours of the rainbow can be seen in soap bubbles, in the mother-of-pearl layers inside shells and so on. Look for them.

15. Write calligrams for each of the four seasons; the wind, a tree and sunshine. One example is given alongside.



16. How many common sayings about the weather can you make up or recall?

Here are some :

Keep your weather eye open.

Save it for a rainy day.

Every cloud has a silver lining.

Make hay while the sun shines.

17. Did you read in the newspapers recently that Dehra Doon had a snowfall after 37 years? Try to imagine what might have happened there on that day and write about it.

18. The weather reports in the newspapers give you information about the maximum and minimum temperature each day. Find out how a maximum and minimum thermometer works. Maybe you will be able to see one in your school laboratory.

The Computer's Spring Greeting

Spring gling
fingle jingle
jing wring
sing wing
bring ting
ring ding
dingle ding
ding a ling
ling a ring
ring ring
jing a ring
wring a ling
spring a ling
spring swing
wringing
fing spring
sprang spring
SPR ...ING!
SPRING.

19. Find out about the different Spring Festivals celebrated in various parts of our country.

20. Would you like to write your own poem about Spring?

21. The pictures shown below give some idea of what might happen on a hot summer's day. Can you make additions to this list? Write also about some of the things you like to do in summer.

Gary Lewis, Age 9.



BUTTER MELTS



INSECTS GATHER



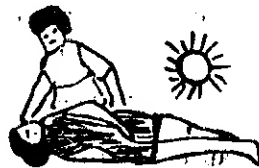
MILK TURNS SOUR



THE CAR RADIATOR BOILS



TAR MELTS ON THE ROAD



PEOPLE FAINT

22. There are no clouds. Everyday the sun shines brightly. The ground is iron-hard with great cracks in it. Write down all the other things which might happen if the sun shone all the time.

23. Write all the words you know which have 'sun' in them. To get your list started off here are a few : sunflower, sun-tan, icecream sundae.....

24. Find out how animals, birds and insects keep cool in summer.

25. Here is a recipe for Lemon Squash—to keep you cool in summer!

Lemons 1 kg

Sugar $1\frac{1}{2}$ kg

Water 1 kg

KMS 2 gm

(KMS, or potassium meta bi-sulphite is a preservative, which can be bought at a chemist's shop. Why do you think preservatives need to be added to juices and squashes ?)

Cut lemons, extract juice. Mix sugar, water and the juice of four lemons. Bring to boil twice over a gentle flame. Remove, strain through cloth and cool. Mix with remaining juice. Dissolve KMS in a little water ; add to squash. Bottle and store.

Find out other recipes for squashes that can be made and stored. Try to write them out precisely—giving the ingredients and the steps for making in the correct order.

26. People keep cool in summer in many ways—make a long list of them.

Try to find out how the following ideas work :

It is cooler to wear white or lightly coloured clothes in summer.

Water can be cooled in earthen pots in summer. The hotter it is, the cooler the water.

Meera Govil and Gayatri Moorthy

EXERCISES IN DEVELOPING IMAGINATION

"Imagination is more important than knowledge." - Einstein

The following exercises, taken from Applied Imagination by Alex F. Osborn (St. Paul Publications) may be interesting to both teachers and senior students. Do write and let us know some of the results.

— Editor,

1. "Your mind is like a parachute ; it's no use unless it's open."

Can you write similar endings for :

"Love is like a flying saucer....."

"Love is like Grandma's spectacles....."

"Life is like a Bible....."

2. Write five imaginary headlines that you would most like to see in tomorrow morning's newspaper.

3. Name five inventions which the world could use to advantage which have not yet been invented.

4. Put a blob of ink on a piece of paper and blot it quickly. Make a list of objects the resultant smear resembles.

5. List all the words, phrases and figures of speech (including slang) that you can think of which might be used instead of the word 'absurd'.

6. If there have been 'flying saucers' and if they have come from Mars, for what 'useful' purposes could they have been commissioned? Name three.

7. Write a classified advertisement offering for sale : a bed-making machine ; an untraceable poison ; a robot which does one's homework.

8. Make up a parody of a Mother Goose nursery rhyme.

9. Describe the most annoying habit of one of your closest friends. Think up six tactics to get that person to change that habit for the better.

10. Think up all possible uses for : a common brick ; a paint brush ; an umbrella and a silk hat.

11. Suggest a single word of your coinage to describe : a supper made of left-overs ; butts and ashes left in an ashtray after a long evening ; crumbs in bed ; a crowd rushing out on to a football field before the game's end.

12. Write down vertically the word 'CREATE' as shown.

C

R

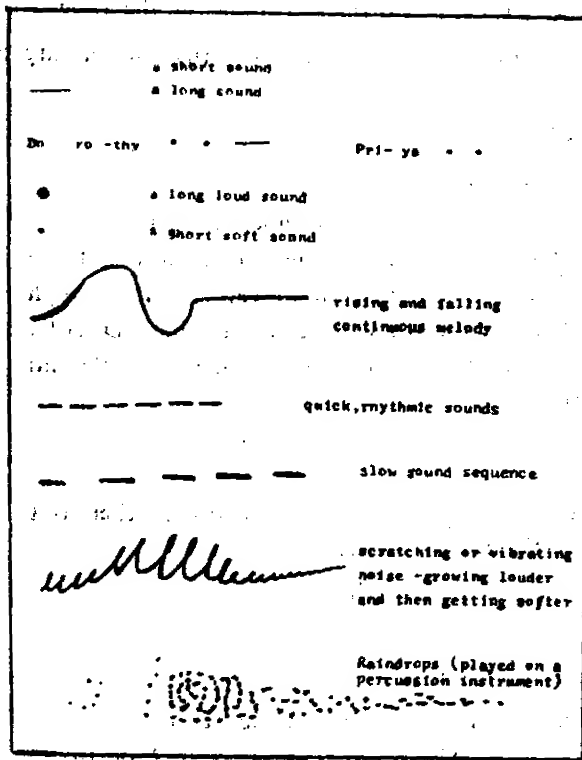
E

A Against each letter write a word beginning

T with that letter, so that you form a six-

E word maxim relating to creativity.

(contd. from page 2)



These are my ideas, but it is important that the children be encouraged to work out their own sound signals—in the process giving the teacher an insight into their personalities. Through these activities the children evolve a commonly understood set of symbols. They learn then that signs, whether for sounds or speech, music or written script, gradually developed through social agreement into ways of communication.

Movement, speech and play can be linked together in a variety of ways. Rhythmic stamping, walking or reciting to the clapping of hands or the beat of percussion instruments are an important part in the development of articulated speech. The Indian 'tala' techniques with their varying combinations of speech (e. g. the marking time with meters of the North Indian 'Tintala'), hand movements, clapping, finger counting and tabla playing could be utilised for children above seven years of age.

Music lessons provide opportunities for children to experiment with different materials available in their own world, to make simple

instruments which can offer rich stimuli for sound play and practical musical experiences. The folk instruments of India are another source of much learning. Alternatively, I give below some suggestions for the improvisation of musical apparatus.

- * Porcelain dishes, bowls, glasses and bottles filled to different levels with water may give notes of different pitches. Bottles of different sizes can also be hung up and hit with metal spoons to produce a number of notes.
- * Porcelain or clay flower pots of different sizes can produce chimes. A cord may be passed through the hole in the base and knotted on the inside. These may then be hung up from a horizontal pole fixed between two chairs.
- * An organ can be made by hanging up long, thick metal pipes of varying lengths.
- * Small and large tin drums can be made out of tin cans and iron buckets. It is recommended that three to five tins of different sizes are fixed on a stand for greater stability. They may be struck with metal spoons.
- * A collection of enamel bowls of various sizes when struck with rubber drumsticks sounds like the Gamelan—a percussion instrument found in Indonesia.
- * A metal petrol can forms a good substitute for a gong !
- * A large variety of instruments can be improvised from wood or bamboo. Some have been described in an article in PATHWAYS, August 1980 issue.
- * Bongos : percussion instruments can be made from bamboos about 12-15 cm in diameter and 20-30 cm long, which are open at both ends. One opening may be covered with animal skin (after it is softened by soaking in water for two hours or more) or with artificial foils. These are

to be fastened with the help of strong rubber bands, and played with fingers or hands only.

- * Bottles, a comb covered with tissue paper and simple bamboo flutes made at home can be used as wind instruments.
- * The water-hose trumpet is a great favourite with children. A funnel is attached to a mere long coiled water hose. The other end is levelled with emery paper and serves as a mouth piece. If the mouth piece of an old trumpet or a trombone can be obtained, blowing with tight lips succeeds even better.
- * Nylon strings of varying thickness, tightened to different tensions may be mounted on suitable bases to provide stringed instruments. Likewise a bowed instrument can be made by stretching such a string from one end to the other of a strong bamboo pipe (40-50 cm long). In the middle of the pipe, on the lower side of the bamboo, a tin can may be screwed on tightly to serve as an echo amplifier (i.e. to increase the resonance). Such an instrument can be plucked or struck.

Children who are slightly older may have hours of fun and learn much while they make these and other instruments. It must however be remembered that they cannot produce tuned pitches and as such no melodies may be produced using them. They can however serve for experiments in music making and be used in many ways to produce rhythmic sound effects.

How can a lesson in music influence the social learning of a child in its conduct towards a partner or a group?

The early years of a child are marked by a predominantly egocentric conduct and the child tries to build up its own self. Likewise the child feels the need to communicate and to play with others, which frequently is not without conflict. The child must gradually learn to adjust itself to a

partner, to find its place in a group, to form relationships and also to act in co-operation with others. Joint musical activities offer excellent opportunities for social learning, for communication and cooperative action. Some of these are described here.

- * The Mirror Game helps in adjusting to a partner. Standing in pairs facing each other, one child is the 'mirror' and imitates exactly what the partner is doing. Later roles may be exchanged.
- * Detective : The partners stand facing each other, observing each other closely. Then while one child closes its eyes, the other makes a slight change in its dress or hair style. It is now up to the 'detective' to find out what has been changed.
- * Echo : Both partners hide and then one starts to call out—either a name or 'hello' or a contrived sound, while the 'echo' imitates the sound softly.
- * A variation of this may be tried out by letting the partners use the same instruments—one played louder and responded to by a soft echo.
- * Sound Chains : The children stand in a circle. Everyone has an instrument the sound of which dies away slowly e.g. a cymbal, a metal pipe, a gong or a bell. The first child plays its instrument. The next child in the circle follows up but only when the note of the preceding instrument has faded away. This is continued around the circle of children.
- * Merry-Go-Round : As above, the children stand in a circle with instruments of their choice. Alternatively they can invent vocal sounds. Every child plays or sings—only one sound being produced at a time—and the sound travels from one child to another in turn—first slowly, then faster and faster—till a bell sounds and the 'Merry-go-Round' becomes slower and slower till it stops.

Relationships in a group arise out of activities where children can make music together, starting or stopping together. This also leads to choosing a leader and following commands given. Playing under a 'conductor' was mentioned earlier. Such exercises may be extended further with the introduction of signals indicating speed, which instruments are to be played, how they are to sound.....and so on.

Conversely the 'conductor' may be means of pre-arranged sound signals indicate what type of actions are to be performed by the group at his command. An 'observer' watches the group to eliminate children whose response is not the appropriate one.....and the game goes on.

Cooperative action, that is playing something through mutual decision, carrying it out, evaluating and eventually improving upon it, is necessary for independent music making, for making up songs, sound stories, scenic plays and other creative activities.

Music lessons can also serve to develop concentration by helping children to focus on specific sounds and ignore others in the environment.

- * The children may sit with eyes closed and listen to the noises heard--from inside, from outside...describe them.
- * The children may play guessing games with eyes closed : a child goes near an object in the room and make sounds. The others guess where it came from, what it was and how it was made...how many objects there were, in what sequence they were played, whether the sound was louder/softer; lighter/heavier...than others heard.
- * Similarly a child knocks on a door in a particular way: fearfully/angrily, politely/imperiously, rhythmically as if in a code... and other children guess the meaning or the occasion for the knocking and describe how it sounded.

Similar descriptions could be made of foot-steps, especially when climbing stairs nearby.

A battery operated cassette recorder may be used to make a variety of sounds recordings from the environment. These could be

- * in different places or rooms of the house-- the kitchen, the living room, the bathroom; the playground; the street; the railway station.
- * Single sounds--like the noise of a car or motor cycle; household apparatus; animal sounds and so on.
- * Signals: Siren; doorbells; telephones; cries of vendors.....
- * Sounds that change: the starting or arrival of a car; the approach and going away of a motor cycle, aeroplanes; the sounds of water from taps; the rustling or tearing of paper.....

Questions can follow depending on the age group and skills of the class: Where/what was heard? What was the cause / its meaning? how did it sound--its effect or quality? comparison to other sounds--resemblance, difference, contrasts...

This process of hearing, questioning, verbalising must alternate with innovation of sound games. The sound examples can also lead to drawing of the place where the sound was heard, arranging pictures to correspond to sounds; looking at pictures and building up a sound demonstration of the scene in a particular picture; combining stories with particular sequences of sounds.....

As will be apparent from the suggestions given up to now, the music lesson becomes inter-linked with a variety of other activities and subjects and comes to occupy an important place in the day of a primary school child.

One final problem facing the music teacher: How can a music lesson give an insight into the variety of music in the surroundings? In the primary school, the aim of teaching music is essentially to make children understand that music is a form of communication between human beings; the variety being determined by historical and

social conditions. To the children themselves this aim is only apparent to the extent that their musical experiences are related to their own environment. We would not help the children if we ignored the radio, television or mass media; or if we tried to impose on them our own conceptions of what is good or bad, beautiful or ugly in music. It is also incorrect to believe that children can be offered so-called 'difficult' music only after they have mastered the rules and theory of music. They are certainly in a position to enjoy music according to its moods, feelings and general form. Hence we must strive to create in them appreciation of all types of music—folk, rock, jazz, classical, vocal or instrumental, from different sources, countries; made by different people (professional or otherwise) on many occasions (religious, festival, marriages, mourning, games and for dance). They will realise that it can be made by various means; can be published and communicated in different ways (singing, playing; written forms; by using records, tapes, radio or television). They need to understand that different people have different motives, needs and interests which make them listen to music and that their reactions even to the same music may vary.

Children may be involved in collecting photographs, pictures and information about instruments, musicians, occasions on which music is played and so on. Normal school equipment generally includes record players and cassette recorders which may be utilised to let students listen to songs or music of many kinds. Their enquiries should now lead them to finding out about the origin, meaning, and source of the music heard by them. Listening to radio broadcasts in unknown languages is another interesting exercise. Records are generally sold in attractively designed jackets which might be a starting point for more discussion and research. Music could also be used for communication between children from different lands or different states of India. The children could decide how this could be done, plan and record such music.

If we want to offer children opportunities to realise themselves through games, body movements, songs and dances, musical experiences and

experiments as discussed above; we need to re-orient our own thinking as well. All this is possible only if we do not reprimand every loud noise and do not curb the freedom of the children to express themselves in their own ways. Alternating between playing with and without freedom is certainly necessary in order to gradually build up the level of their performance. Yet, in the musical actions of the children, their sound stories and musical illustrations we are not concerned with perfect products; nor with a right or wrong way; a better or worse way. Likewise in their experiments with musical instruments there can be no most beautiful sound in comparison with others.

One main problem certainly remains—the large number of students in a class! Yet, in order to help the children in independent education and decisions, to prepare them for a change from egocentricity to social cooperation, group teaching offers us valuable opportunities. For example, within a class, one group could make movements while another sings or plays to it. Yet another group may look on to convey their impressions at the end. One group may note down the sounds being made in their sign language. In such group work, children learn responsibility and understand that the task succeeds only when the individual's wishes are deferred for the common action of the group.

Certainly such teaching needs careful planning by the teacher. Apart from deciding what the class should do in the lesson, much organisation and planning is needed to ensure that every thing needed is available during the lesson. In planning what each group is to do, too many working steps must not be defined so that individualism is not cramped. The teacher herself may carry out demonstrations, sketch or illustrate ideas graphically on the blackboard and lead the class in discussions. It is important to keep in mind all along that musical performances are no longer the central aim of the music class. Rather, the process of learning by the children, their motivation and enjoyment should encourage the teacher to try out more and more of such new and unusual methods.